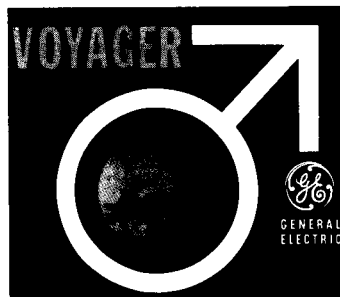
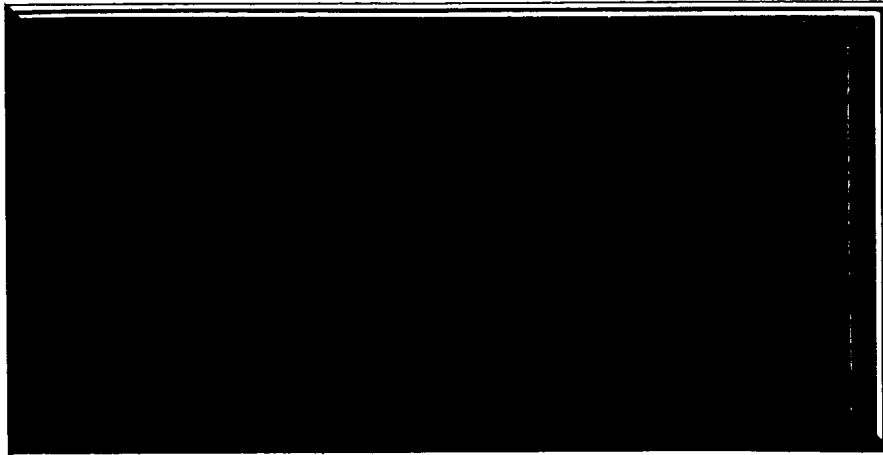


MISSILE AND SPACE DIVISION



FACILITY FORM 602

N67-40424

(ACCESSION NUMBER)

(THRU)

(PAGES)

(CODE)

(NASA CR OR TMX OR AD NUMBER)

(CATEGORY)

GPO PRICE \$ _____

CFSTI PRICE(S) \$ _____

Hard copy (HC) 3.00Microfiche (MF) 65GENERAL  ELECTRIC

DOCUMENT NUMBER VOY-DC-FR
28 JULY 1967

FINAL REPORT
DATA MANAGEMENT STUDY
APPENDIX M

CONTRACTOR DATA REQUIREMENTS
SAFETY (SA)

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VOYAGER SPACECRAFT SYSTEM PROJECT

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PROJECT ENGINEER, DATA MANAGEMENT
VOYAGER SPACECRAFT SYSTEM PROJECT

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DATA MANAGEMENT AND CONTROL TASK
VOYAGER SPACECRAFT SYSTEM PROJECT

PREPARED FOR
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
NASA PASADENA OFFICE
PASADENA, CALIFORNIA

UNDER NASA CONTRACT No. NAS7-584

GENERAL  ELECTRIC
MISSILE AND SPACE DIVISION
Valley Forge Space Technology Center
P. O. Box 8555 • Philadelphia, Penna. 19101

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INTRODUCTION

1.1 DEFINITION - SAFETY (SA)

These data describe the procedures, controls, methods, studies, and reporting needed to ensure the safety of Voyager operations.

1.2 SCOPE

The System Safety Engineering Plan describes the actions and activities required to ensure maximum protection of personnel, facilities and equipment associated with all phases of the Voyager Project from design to flight of the spacecraft.

The safety operation through the application of management and engineering resources will emphasize awareness and resolution of potential safety problems associated with the development, evaluation and reporting of safety.

DATA ITEM NUMBER	DATA ITEM SAFETY	DESCRIPTION
SA-001	Plan, System Safety Engineering	Describes System Safety Engineering criteria in applicable disciplines and the approach/methods during design, development, manufacturing and testing.
SA-002	Manual, Safety	Implement general Departmental policies and procedures for handling hazardous materials; and equipment and facilities.
SA-003	Report, Safety Training Program	Provides Safety Training for specific hazard of the Voyager Project.
SA-004	Report, Systems Interfaces, Hazards and Analysis	Analysis of system and subsystems to determine modes and subsystem interfaces to determine the total system.
SA-005	Report, Safety Recommendations	Reports safety recommendations made by the project and records the action taken.
SA-006	Report, Accident/Incident	Used to assure that accidents or incidents which have a potential to do so, are thoroughly investigated.
SA-007	Minutes, Integrated Safety Board Meetings	Minutes of formal meetings of the Integrated Safety Board.
SA-008	Report, Safety	Provides a summary of components analyzed for acceptability, summarizes test plans review of safety requirements reviewed and approved and documents the results of safety audits performed with requirements set forth in the Safety Manual.
SA-009	Directive, Safety	Communicates urgent safety requirements to the project. Compliance is mandatory.
SA-010	Report, Personnel Certification Program	Reports individuals by name who are certified for i. e., propellant handling, system test, etc.
SA-011	Report, Ordnance Accountability	Reports quantity and type of pyrotechnics in expended items.

* KEY INFORMAL DATA

DATA ITEM LIST/USER MATRIX

	APPLICABILITY TO FUNCTIONAL USERS AT CONTRACTOR LEVEL															
	SE	PQ	MG	CM	QA	TE	RA	LS	MA	SC	PC	MF	MP	DM	FA	
a, principles and techniques ethods which will be taken nd testing.	U	-	U	-	R	U	R	U	PM	-	U	-	U	-	U	
l instructions; specific pro- d protection of personnel,	U	-	U	-	R	U	U	U	-	-	U	U	U	-	U	
s associated with the	U	-	U	-	U	U	U	U	-	-	U	-	U	-	U	
aine probable hazardous failure e the safety problem areas	U	-	U	-	R	U	R	-	U	-	U	-	U	-	-	
e customer and others and	U	-	-	-	R	U	-	-	U	-	U	-	-	-	-	
hich degrade the system, or stigated.	-	U	U	-	U	U	U	-	R	-	U	U	-	-	-	
Safety Board	-	-	U	-	R	U	-	U	U	-	U	-	U	-	-	
to ensure safety factors ed for safety, provides or the launch site, and med to determine compliance ual.	-	-	U	U	R	U	-	U	U	-	U	-	U	-	-	
all organizations.	U	-	U	-	R	U	U	U	PM	-	U	U	U	-	-	
d for specific assignments,	U	-	U	-	R	U	-	U	U	-	U	-	U	-	-	
stores and accounts for all	U	-	R	-	U	U	-	R	-	-	U	U	-	-	-	

U - USE R - REVIEW AUTHORITY A - APPROVAL AUTHORITY PM - PROJECT MANAGER APPROVAL

					APPLICABILITY AT SUBCONTRACTOR/VENDOR/SUPPLIER LEVELS						APPLICABILITY TO PROJECT BOARDS											
					PRINCIPAL SUB-CONTRACTORS	MAJOR SUB-CONTRACTORS	KEY SUBCON AND VENDORS	OTHER VENDORS	KEY SUPPLIERS	KEY SUBSUPPLIERS	CONFIGURATION CONTROL	CONFIGURATION MANAGEMENT	DATA REVIEW	DESIGN REVIEW	FAILURE REVIEW	INTEGRATED SAFETY	INTEGRATED TEST	MAKE OR BUY	MATERIAL REVIEW	SOURCE EVALUATION	SOURCE SELECTION	
SA	AL	SI	RP	AM																		
R	U	U	-	-	C	C	C	-	(C)	(C)	-	-	-	-	-	R	U	-	-	-	-	
A	U	U	U	-	(S)	(S)	(S)	-	-	-	-	-	-	-	-	R	U	-	-	-	-	
A	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	
A	U	-	-	-	(C/S)	(C/S)	(C/S)	-	(C/S)	(C/S)	-	-	-	-	-	R	U	-	-	-	-	
A	U	U	-	-	(C/S)	(C/S)	(C/S)	-	(C/S)	(C/S)	-	-	-	-	-	R	U	-	-	-	-	
A	U	-	U	-	(S)	(S)	(S)	-	(S)	(S)	-	-	-	-	-	R	-	-	-	-	-	
A	U	-	-	-	(C)	(C)	(C)	(C)	(C)	(C)	-	-	-	-	-	R	U	-	-	-	-	
A	U	-	-	-	(S)	(S)	(S)	-	(S)	(S)	-	-	-	-	-	R	U	-	-	-	-	
R	U	-	-	-	(C)	(C)	(C)	(C)	(C)	(C)	-	-	-	-	-	R	U	-	-	-	-	
A	U	-	-	-	(S)	(S)	(S)	-	(S)	(S)	-	-	-	-	-	R	-	-	-	-	-	
A	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	

USER FLOW DIAGRAMS

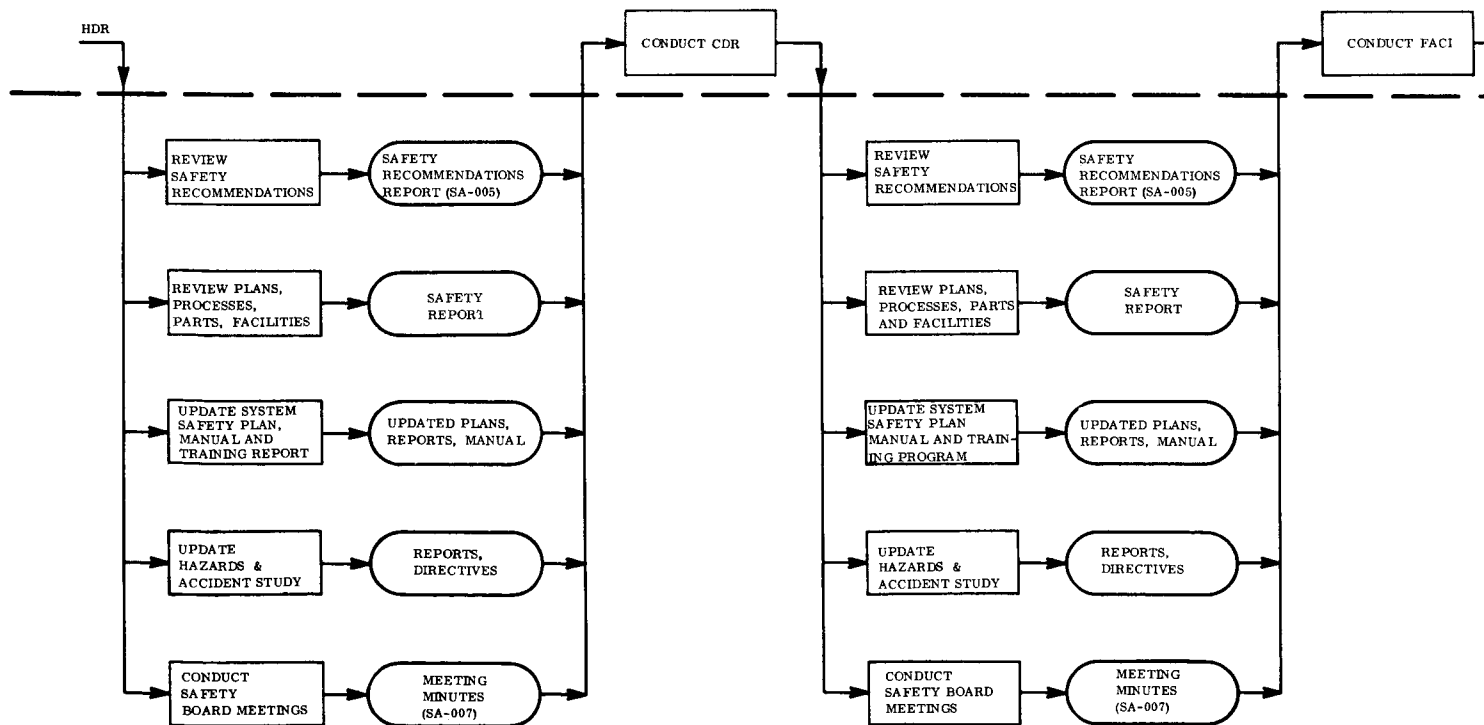
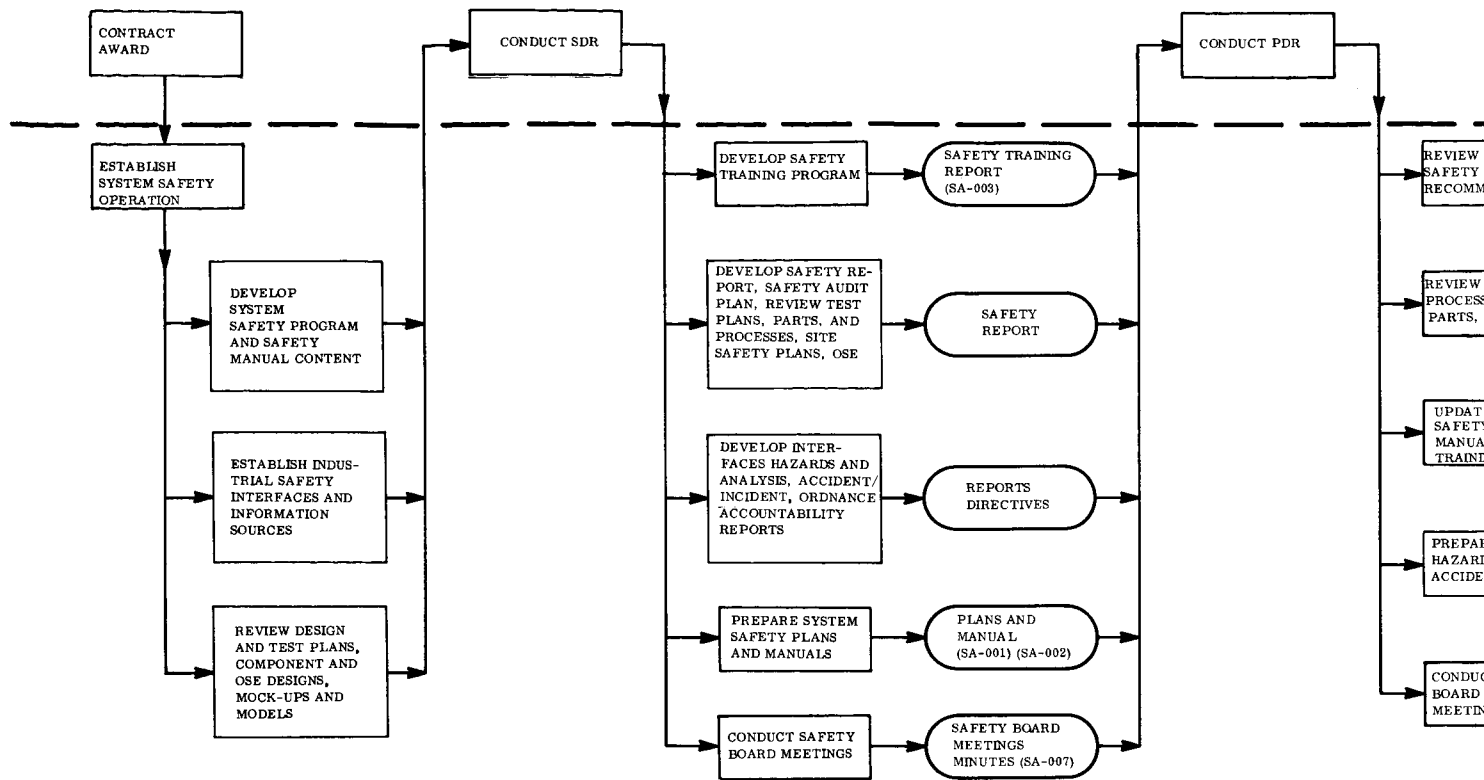
Contractor - user flow diagrams (show the relationship between Voyager system documentation and the activities undertaken by the prime spacecraft contractor. The diagrams are intended to be a communication tool which describes the project in terms which emphasize documentation and as a planning tool for the integration of data management activities into the overall project management scheme.

The project is considered in a generalized sense in that subsystems and components are each treated as collective entities; that is, the documentation flows associated with the several separate subsystems are not distinguished. A single representative flow is presented.

The drawings show the detail activities and are keyed to the formal design and hardware reviews. A generalized summary flow is also included.

Safety User Flow Diagrams

<u>Figure Number</u>	<u>Title</u>
M-1	Safety User Flow Diagram - Summary
M-2	Safety User Flow Diagram - Contract Award Through Critical Design Review
M-3	Safety User Flow Diagram - Critical Design Review Through Launch



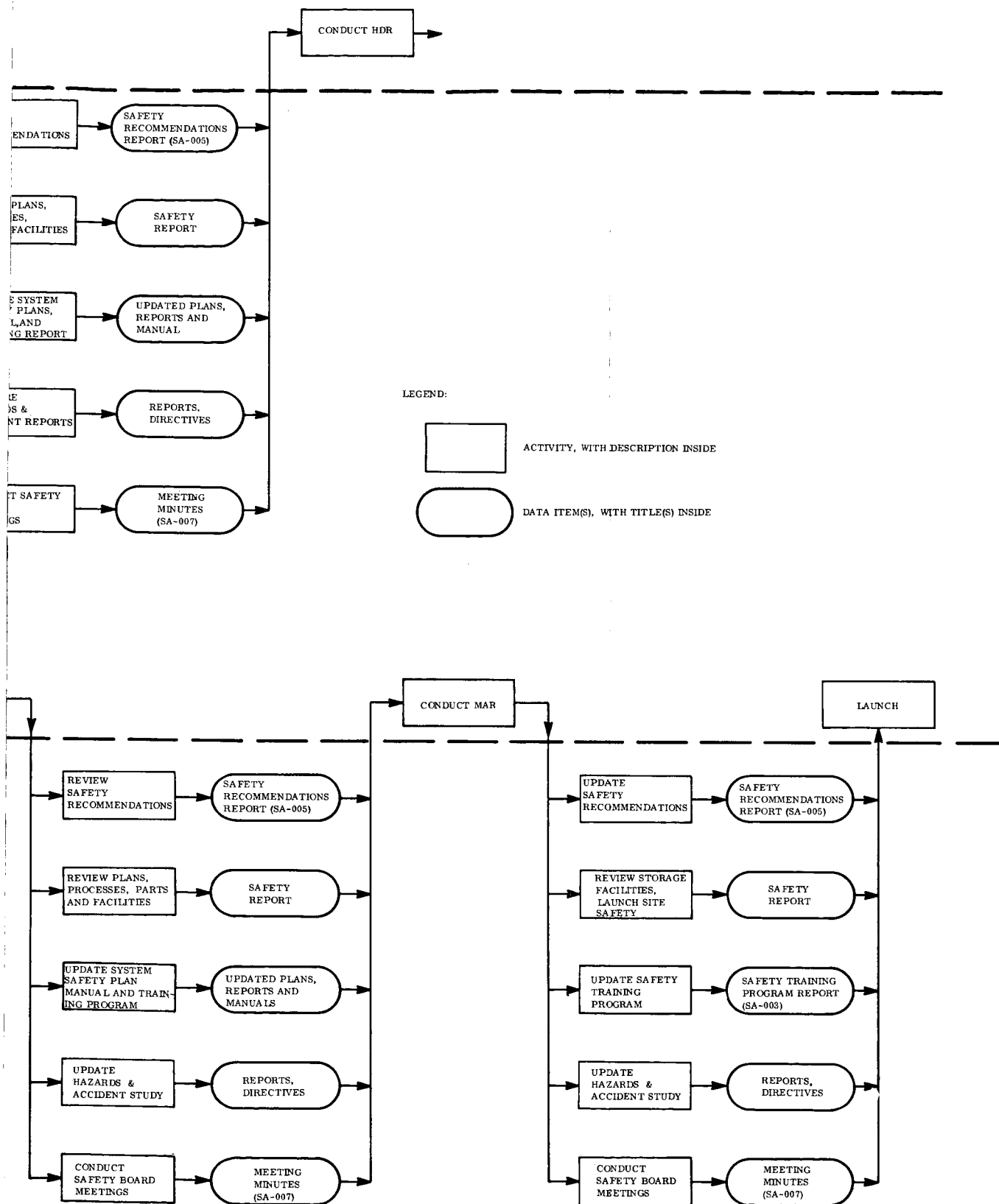


Figure M-1. Safety User Flow Diagram - Summary



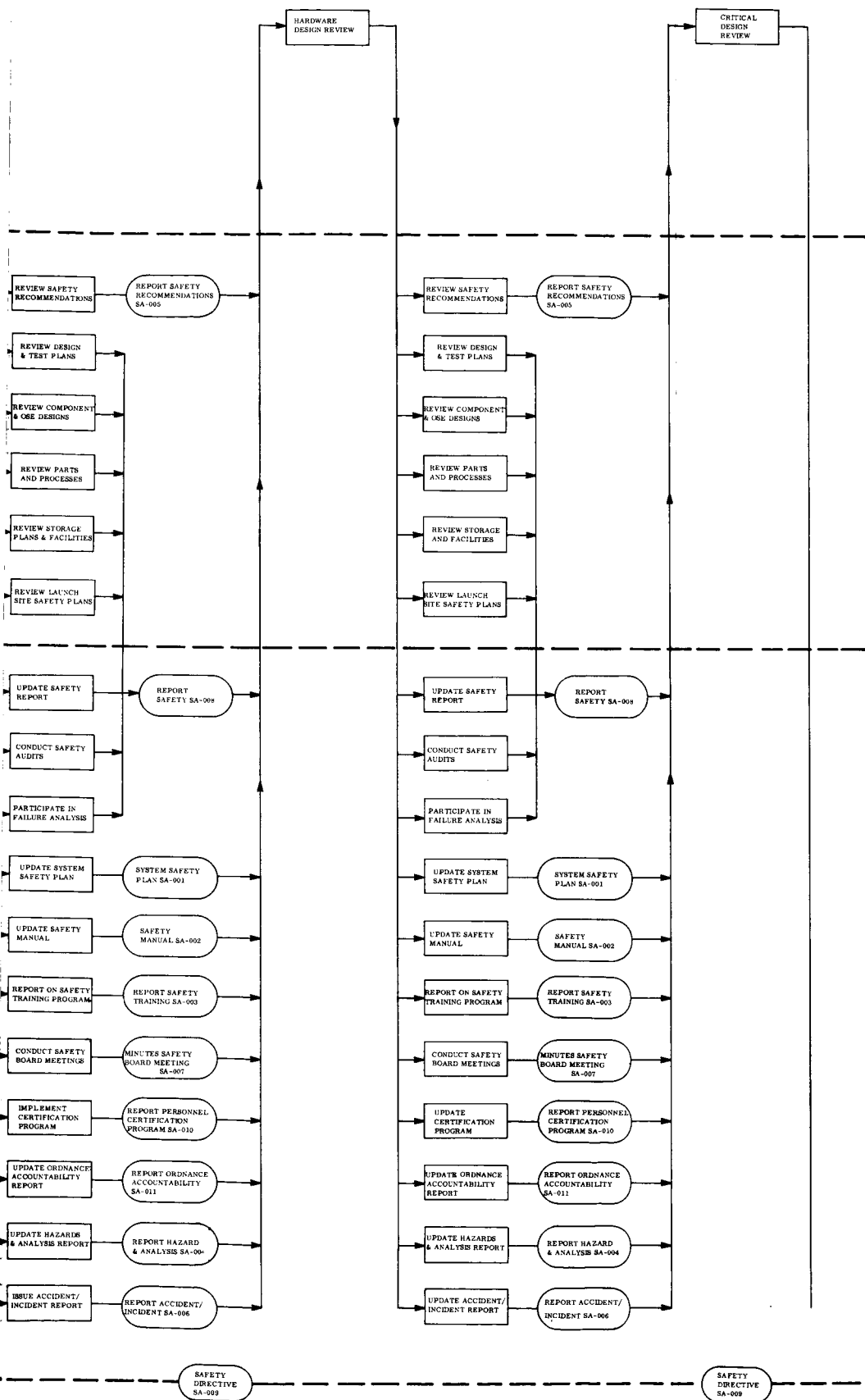
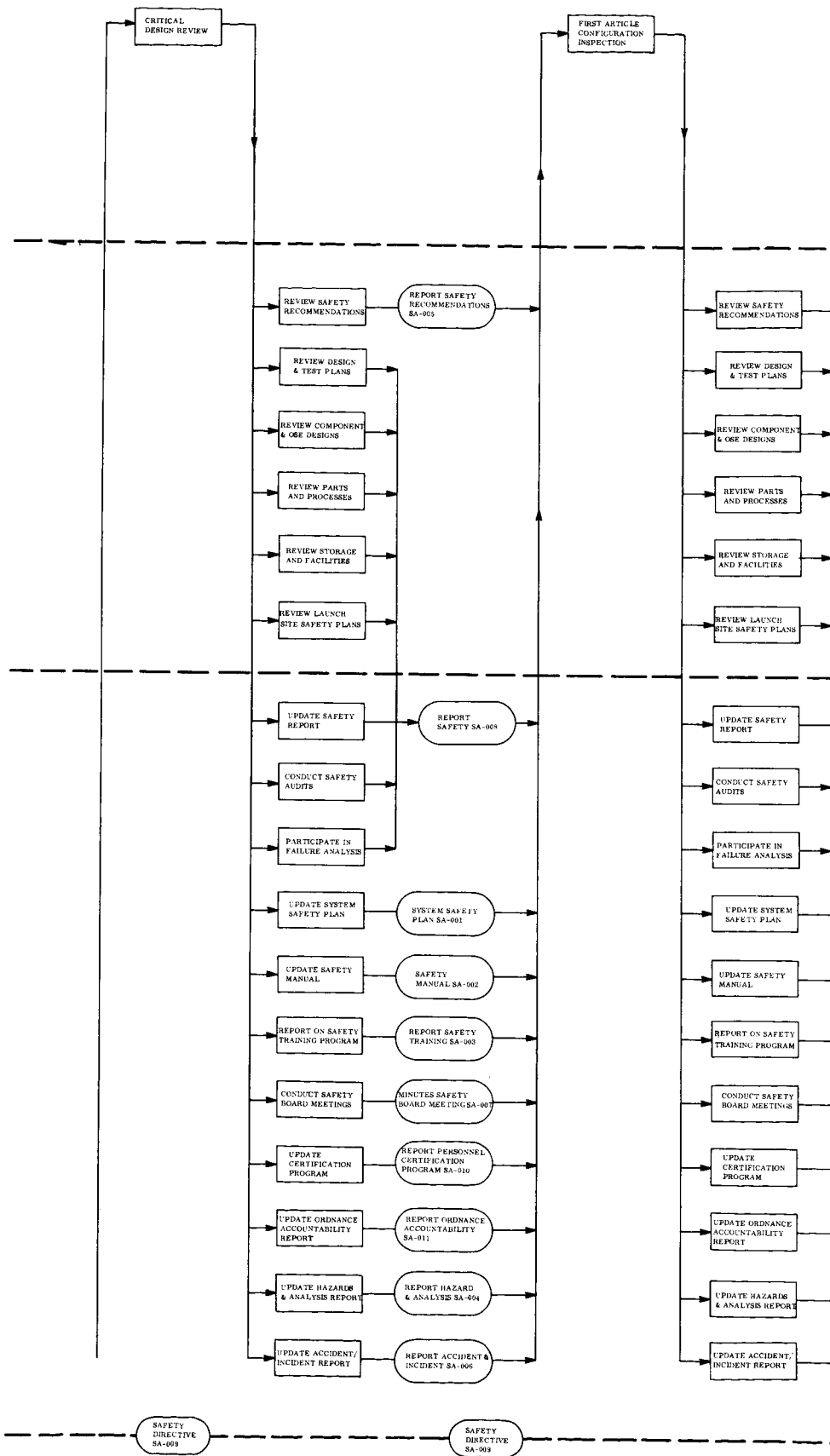


Figure M-2. Safety User Flow Diagram - Contract Award Through Critical Design Review



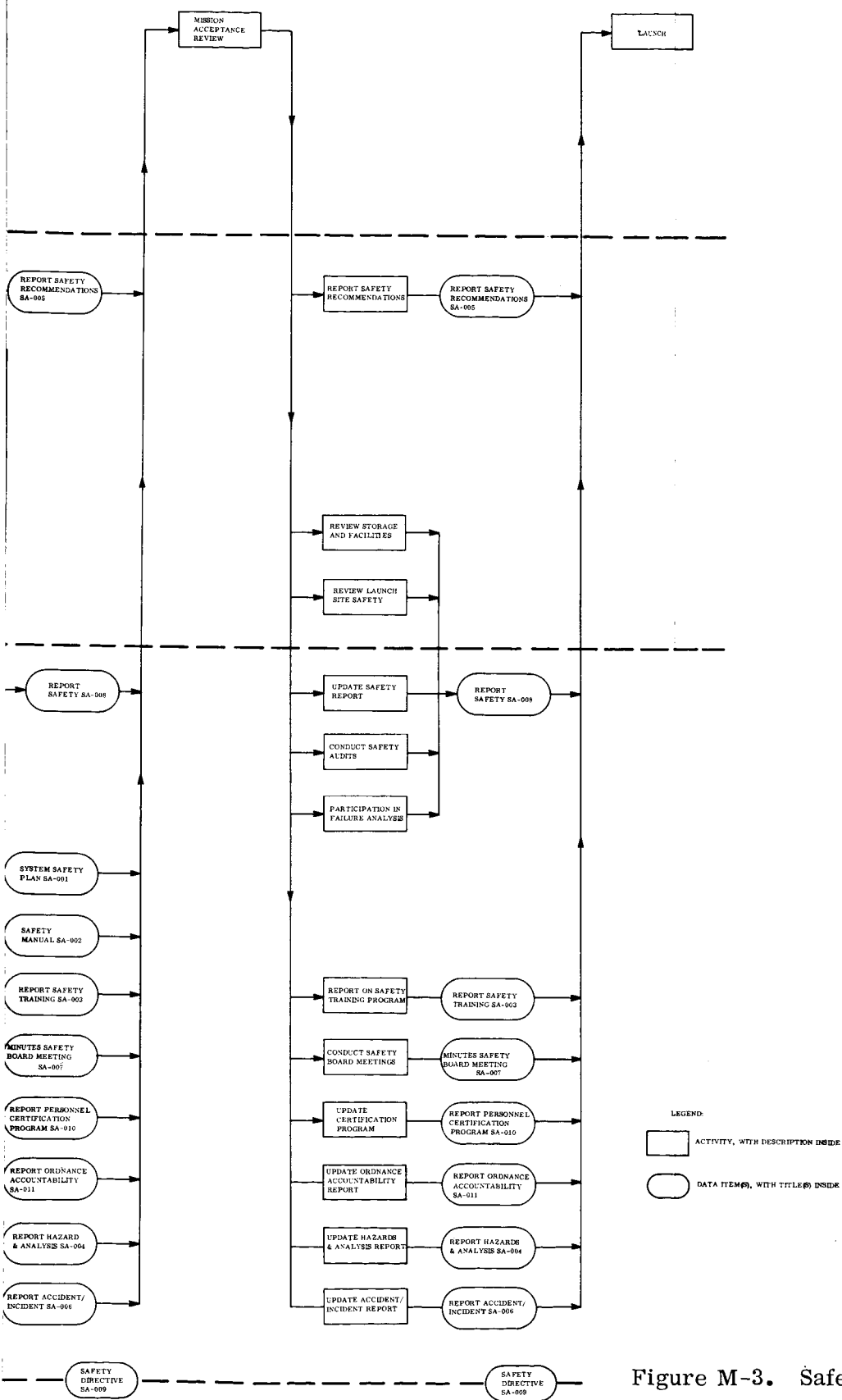


Figure M-3. Safety User Flow Diagram - Critical Design Review Through Launch

Safety Data Requirement Descriptions

<u>DRD Number</u>	<u>Title</u>
SA-001	Plan, System Safety Engineering
SA-002	Manual, Safety
SA-003	Report, Safety Training Program
SA-004	Report, Systems Interfaces, Hazards and Analysis
SA-005	Report, Safety Recommendations
SA-006	Report, Accident/Incident
SA-007	Minutes, Integrated Safety Board Meetings
SA-008	Report, Safety
SA-009	Directive, Safety
SA-010	Report, Personnel Certification Program
SA-011	Report, Ordnance Accountability

GE EXHIBIT DRD SA-001

VOYAGER DATA REQUIREMENT DESCRIPTION				DRD APPROVED BY:		DATE:		DATA CATEGORY:									
ORGANIZATION ORIGINATING REQUIREMENT:		CODE: SA	OFFICE RESPONSIBLE FOR DRD:		CODE:	DRD PREPARED BY: F. A. Boppel		DATE: 7/28/67		CONTRACT NO.:	DRD NO.: SA-001						
TITLE OF DOCUMENT: PLAN, SYSTEM SAFETY ENGINEERING						ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Safety		TASK OR SUBTASK:		DRL ITEM NO.:							
						ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:		DRL NO.:		LEVEL NO.:							
						ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:		DDL NO.:		FILE NO.:							
						TYPE OF DOCUMENT: <input checked="" type="checkbox"/> CONTROL <input type="checkbox"/> ACTION <input type="checkbox"/> REFERENCE <input type="checkbox"/> INFORMATION											
USE OF DOCUMENT: Used to define overall safety plans and establish authority while defining responsibilities.						ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:		NO. OF COPIES: 50									
						ESTIMATED MANHOURS FOR SINGLE PREPARATION:		INFORMATION CUTOFF DATE OR MILESTONE:									
						ESTIMATED COST (\$) FOR SINGLE PREPARATION:		DATE DATA DUE TO USER:									
						INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS: MA-007, Plan, Project Implementation PC-017, Plan, Subcontractor's Management MG-006, Manual, Hardware Handling		FREQUENCY OF ISSUE: <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input checked="" type="checkbox"/> OTHERWISE, AS SPECIFIED One time		PUBLICATION DATE: PDR							
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FORM OF DATA: <input checked="" type="checkbox"/> PRINTED DOCUMENT <input type="checkbox"/> CHART <input type="checkbox"/> DIAGRAM <input type="checkbox"/> DRAWING <input type="checkbox"/> FILM (STATIC OR MOTION) <input type="checkbox"/> ILLUSTRATION <input type="checkbox"/> MODEL <input type="checkbox"/> RECORDING (TAPE OR DISC) <input type="checkbox"/> COMPUTER CARD <input type="checkbox"/> COMPUTER TAPE <input type="checkbox"/> MICROFILM (W/O OR W/O CARD) <input type="checkbox"/> OTHER _____						KIND OF DATA: <input type="checkbox"/> ABSTRACT <input type="checkbox"/> BROCHURE <input type="checkbox"/> BULLETIN <input type="checkbox"/> CATALOG <input type="checkbox"/> CONTRACT <input type="checkbox"/> DIRECTIVE <input type="checkbox"/> DISCLOSURE <input type="checkbox"/> ENGINEERING CHANGE ORDER <input type="checkbox"/> REQUEST FOR ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> HANDBOOK <input type="checkbox"/> INDEX _____						REFERENCE DOCUMENTS: _____					
REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)																	
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SUBMIT FOR APPROVAL TO: _____				_____				_____				_____					
_____ BY _____				_____				_____ BY _____				_____					
Project Manager				_____				_____				_____					

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.:

SA-001

The System Safety Engineering Plan is the vehicle for defining the overall safety plan for controlling safety on the Voyager Project. This plan will be information and definition of intent for NASA, direction for operations, and a general guide document for subcontractors and launch test centers compliance.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

The System Safety Engineering Plan presents the overall system safety plan and identifies the planned state-of-the-art engineering techniques to be implemented on the Voyager Project, to meet the safety requirements related to personnel, flight hardware, and test equipment.

Authorities and responsibilities will be documented, and enforcement plans will be presented. The safety plan objectives to be implemented during the design, development, manufacturing and testing phases of the program will be described.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD SA-002

VOYAGER DATA REQUIREMENT DESCRIPTION				DRD APPROVED BY:		DATE:		DATA CATEGORY:									
ORGANIZATION ORIGINATING REQUIREMENT:		CODE: SA	OFFICE RESPONSIBLE FOR DRD:		CODE:	DRD PREPARED BY: F. A. Boppel		DATE: 7/28/67		CONTRACT NO.:	DRD NO.: SA-002						
TITLE OF DOCUMENT: MANUAL, SAFETY						ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Safety		TASK OR SUBTASK:		DRL ITEM NO.:							
						ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:		DRL NO.:		LEVEL NO.:							
						ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:		DDL NO.:		FILE NO.:							
						TYPE OF DOCUMENT: <input type="checkbox"/> CONTROL <input type="checkbox"/> ACTION <input checked="" type="checkbox"/> REFERENCE <input type="checkbox"/> INFORMATION											
USE OF DOCUMENT: Implements general departmental policies and instructions, Voyager specific procedures, hazardous material and operations, related to safety.						ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:		NO. OF COPIES: 100									
						ESTIMATED MANHOURS FOR SINGLE PREPARATION:		INFORMATION CUTOFF DATE OR MILESTONE:									
INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS: SA-001, Plan, System Safety Engineering						ESTIMATED COST (\$) FOR SINGLE PREPARATION:		DATE DATA DUE TO USER:									
						FREQUENCY OF ISSUE: <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input checked="" type="checkbox"/> OTHERWISE, AS SPECIFIED One time		PUBLICATION DATE: PDR									
								UPDATE (FREQUENCY OR MILESTONE): As required									
CLASSIFICATION: <input type="checkbox"/> SECRET <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/> SECRET RESTRICTED DATA <input type="checkbox"/> CONFIDENTIAL RESTRICTED DATA <input checked="" type="checkbox"/> UNCLASSIFIED						<input type="checkbox"/> GROUP 1 <input type="checkbox"/> GROUP 2 <input type="checkbox"/> GROUP 3 <input type="checkbox"/> GROUP 4 <input type="checkbox"/> PROPRIETARY <input type="checkbox"/> PUBLIC DOMAIN		<input type="checkbox"/> SPECIAL HANDLING <input type="checkbox"/> NASA DISCREET <input type="checkbox"/> JPL DISCREET <input type="checkbox"/> PROJECT DISCREET <input type="checkbox"/> NOFORN		ESTIMATED EXPIRATION DATE:							
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REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)																	
DRAFT				DATE				PREPUBLICATION PROOF				DATE					
SUBMIT FOR REVIEW TO:																	
				BY								BY					
SUBMIT FOR APPROVAL TO:				BY								BY					
Manager, Safety																	

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.:

SA-002

SPECIAL INSTRUCTIONS:

Safety Manual will be descriptive and detailed in content.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

The Safety Manual will describe all safety related subjects, policies, instructions, and directives, define responsibilities and authorities, and also explain safety operating procedures. It will list hazardous materials, and operations related to the Voyager vehicle, with special emphasis on those hazards that cannot be minimized under present day knowledge.

The Safety Manual will be required reading for all supervising personnel and completion of this reading will be documented by signed statement.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

VOYAGER DATA REQUIREMENT DESCRIPTION				DRD APPROVED BY:		DATE:	DATA CATEGORY:
ORGANIZATION ORIGINATING REQUIREMENT:	CODE: SA	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY: F. A. Boppel	DATE: 7/28/67	CONTRACT NO.:	DRD NO.: SA-003
TITLE OF DOCUMENT: REPORT, SAFETY TRAINING PROGRAM				ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Safety		TASK OR SUBTASK:	DRL ITEM NO.:
				ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:		DRL NO.:	LEVEL NO.:
				ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:		DDL NO.:	FILE NO.:
TYPE OF DOCUMENT: <input checked="" type="checkbox"/> CONTROL <input type="checkbox"/> ACTION <input type="checkbox"/> REFERENCE <input type="checkbox"/> INFORMATION				ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:		NO. OF COPIES: 50	
USE OF DOCUMENT: Provides information relative to safety training plans and accomplishments				ESTIMATED MANHOURS FOR SINGLE PREPARATION:		INFORMATION CUTOFF DATE OR MILESTONE:	
				ESTIMATED COST (\$) FOR SINGLE PREPARATION:		DATE DATA DUE TO USER:	
INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS: MG-006, Manual, Certification and Training				FREQUENCY OF ISSUE: <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input checked="" type="checkbox"/> OTHERWISE, AS SPECIFIED One time		PUBLICATION DATE: PDR	
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DRAFT		DATE		PREPUBLICATION PROOF		DATE	
SUBMIT FOR REVIEW TO:							
		BY				BY	
SUBMIT FOR APPROVAL TO:		BY				BY	
Manager, Safety							

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.:

SA-003

Management and supervision should use this report to maintain an awareness of required Safety Training Programs.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Describes Safety Training Program, and plans. Subject matter will be general safety as well as specific Voyager-related safety.

This report will also report on the number of personnel and safety programs that they are certified in, i.e., propellant handling, explosive handling, systems testing, etc.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD SA-004

VOYAGER DATA REQUIREMENT DESCRIPTION				DRD APPROVED BY:		DATE:	DATA CATEGORY:
ORGANIZATION ORIGINATING REQUIREMENT:	CODE: SA	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY: F. A. Boppel	DATE: 7/28/67	CONTRACT NO.:	DRD NO.: SA-004
TITLE OF DOCUMENT: REPORT, SYSTEMS INTERFACES, HAZARDS, AND ANALYSIS				ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Safety		TASK OR SUBTASK:	DRL ITEM NO.:
				ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:		DRL NO.:	LEVEL NO.:
				ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:		DDL NO.:	FILE NO.:
				TYPE OF DOCUMENT: <input type="checkbox"/> CONTROL <input type="checkbox"/> ACTION <input type="checkbox"/> REFERENCE <input checked="" type="checkbox"/> INFORMATION			
USE OF DOCUMENT: Management tool for use in communicating hazards and analysis information related to the Voyager vehicle.				ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:		NO. OF COPIES: 25	
				ESTIMATED MANHOURS FOR SINGLE PREPARATION:		INFORMATION CUTOFF DATE OR MILESTONE:	
INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS: SA-001, Plan, System Safety Engineering TE-125, Procedure, Facilities Operating TE-157, Plan, Facilities Certification				ESTIMATED COST (\$) FOR SINGLE PREPARATION:		DATE DATA DUE TO USER:	
				FREQUENCY OF ISSUE: <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input checked="" type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input type="checkbox"/> OTHERWISE, AS SPECIFIED		PUBLICATION DATE: PDR	
CLASSIFICATION: <input type="checkbox"/> SECRET <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/> SECRET RESTRICTED DATA <input type="checkbox"/> CONFIDENTIAL RESTRICTED DATA <input checked="" type="checkbox"/> UNCLASSIFIED		<input type="checkbox"/> GROUP 1 <input type="checkbox"/> GROUP 2 <input type="checkbox"/> GROUP 3 <input type="checkbox"/> GROUP 4 <input type="checkbox"/> PROPRIETARY <input type="checkbox"/> PUBLIC DOMAIN		<input type="checkbox"/> SPECIAL HANDLING <input type="checkbox"/> NASA DISCREET <input type="checkbox"/> JPL DISCREET <input type="checkbox"/> PROJECT DISCREET <input type="checkbox"/> NOFORN		UPDATE (FREQUENCY OR MILESTONE): Quarterly	
						ESTIMATED EXPIRATION DATE:	
FORM OF DATA:		KIND OF DATA:		REFERENCE DOCUMENTS:			
<input checked="" type="checkbox"/> PRINTED DOCUMENT <input type="checkbox"/> CHART <input type="checkbox"/> DIAGRAM <input type="checkbox"/> DRAWING <input type="checkbox"/> FILM (STATIC OR MOTION) <input type="checkbox"/> ILLUSTRATION <input type="checkbox"/> MODEL <input type="checkbox"/> RECORDING (TAPE OR DISC) <input type="checkbox"/> COMPUTER CARD <input type="checkbox"/> COMPUTER TAPE <input type="checkbox"/> MICROFILM (W/OR W/O CARD) <input type="checkbox"/> OTHER		<input type="checkbox"/> ABSTRACT <input type="checkbox"/> BROCHURE <input type="checkbox"/> BULLETIN <input type="checkbox"/> CATALOG <input type="checkbox"/> CONTRACT <input type="checkbox"/> DIRECTIVE <input type="checkbox"/> DISCLOSURE <input type="checkbox"/> ENGINEERING CHANGE ORDER <input type="checkbox"/> REQUEST FOR ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> HANDBOOK <input type="checkbox"/> INDEX					
				APPLICABLE STANDARDS:			
REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)							
DRAFT		DATE		PREPUBLICATION PROOF		DATE	
SUBMIT FOR REVIEW TO:		BY		BY			
SUBMIT FOR APPROVAL TO:		BY		BY			
Manager, Safety							

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.:

SA-004

This report should be considered as required reading for all management and supervisory personnel on the Voyager Project.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Describes subsystems, systems analysis performed to identify hazards and failure modes; it will also identify interface hazards which require subcontractor awareness, or those hazards identified by subcontractors for our attention.

This report will be a compilation of all the known hazards resulting from design interface and/or testing in critical areas. This report will be used to report these conditions in a summary format for ready reference through all management responsible areas.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD)

GE EXHIBIT DRD SA-005

VOYAGER DATA REQUIREMENT DESCRIPTION						DRD APPROVED BY:	DATE:	DATA CATEGORY:	
ORGANIZATION ORIGINATING REQUIREMENT:	CODE: SA	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY: F. A. Boppel	DATE: 7/28/67	CONTRACT NO.:	DRD NO.: SA-005		
TITLE OF DOCUMENT: REPORT, SAFETY RECOMMENDATIONS					ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Safety	TASK OR SUBTASK:	DRL ITEM NO.:		
					ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:	DRL NO.:	LEVEL NO.:		
					ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:	DDL NO.:	FILE NO.:		
TYPE OF DOCUMENT: <input type="checkbox"/> CONTROL <input type="checkbox"/> ACTION <input type="checkbox"/> REFERENCE <input checked="" type="checkbox"/> INFORMATION					ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:	NO. OF COPIES: 25			
USE OF DOCUMENT: Maintain supervisor hazard awareness at a high level.					ESTIMATED MANHOURS FOR SINGLE PREPARATION:	INFORMATION CUTOFF DATE OR MILESTONE:			
					ESTIMATED COST (\$) FOR SINGLE PREPARATION:	DATE DATA DUE TO USER:			
INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS: SA-001, Plan, System Safety Engineering					FREQUENCY OF ISSUE: <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input checked="" type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input type="checkbox"/> OTHERWISE AS SPECIFIED	PUBLICATION DATE: PDR			
					UPDATE (FREQUENCY OR MILESTONE): Quarterly				
CLASSIFICATION: <input type="checkbox"/> SECRET <input type="checkbox"/> GROUP 1 <input type="checkbox"/> SPECIAL HANDLING <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/> GROUP 2 <input type="checkbox"/> NASA DISCREET <input type="checkbox"/> SECRET RESTRICTED DATA <input type="checkbox"/> GROUP 3 <input type="checkbox"/> JPL DISCREET <input type="checkbox"/> CONFIDENTIAL RESTRICTED DATA <input type="checkbox"/> GROUP 4 <input type="checkbox"/> PROJECT DISCREET <input checked="" type="checkbox"/> UNCLASSIFIED <input type="checkbox"/> PROPRIETARY <input type="checkbox"/> NOFORN <input type="checkbox"/> PUBLIC DOMAIN					ESTIMATED EXPIRATION DATE:				
FORM OF DATA: KIND OF DATA: <input checked="" type="checkbox"/> PRINTED DOCUMENT <input type="checkbox"/> ABSTRACT <input type="checkbox"/> INSTRUCTION <input type="checkbox"/> CHART <input type="checkbox"/> BROCHURE <input type="checkbox"/> LETTER <input type="checkbox"/> DIAGRAM <input type="checkbox"/> BULLETIN <input type="checkbox"/> LIST <input type="checkbox"/> DRAWING <input type="checkbox"/> CATALOG <input type="checkbox"/> LOG <input type="checkbox"/> FILM (STATIC OR MOTION) <input type="checkbox"/> CONTRACT <input type="checkbox"/> MANUAL <input type="checkbox"/> ILLUSTRATION <input type="checkbox"/> DIRECTIVE <input type="checkbox"/> MEMORANDUM <input type="checkbox"/> MODEL <input type="checkbox"/> DISCLOSURE <input type="checkbox"/> MINUTES <input type="checkbox"/> RECORDING (TAPE OR DISC) <input type="checkbox"/> ENGINEERING CHANGE ORDER <input type="checkbox"/> PLAN <input type="checkbox"/> COMPUTER CARD <input type="checkbox"/> REQUEST FOR ENGINEERING CHANGE PROPOSAL <input checked="" type="checkbox"/> REPORT <input type="checkbox"/> COMPUTER TAPE <input type="checkbox"/> ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> SCHEDULE <input type="checkbox"/> MICROFILM (W/OR W/O CARD) <input type="checkbox"/> HANDBOOK <input type="checkbox"/> SPECIFICATION <input type="checkbox"/> OTHER <input type="checkbox"/> INDEX <input type="checkbox"/> STANDARD _____ _____ _____ <input type="checkbox"/> VOUCHER					REFERENCE DOCUMENTS:				
					APPLICABLE STANDARDS:				
REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)									
DRAFT			DATE		PREPUBLICATION PROOF		DATE		
SUBMIT FOR REVIEW TO: _____			_____		_____		_____		
			BY _____				BY _____		
			_____				_____		
			_____				_____		
			_____				_____		
SUBMIT FOR APPROVAL TO: _____			BY _____		_____		BY _____		
Manager, Safety			_____		_____		_____		

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.:

SA-005

Voyager supervisor will review and comment on recommendations made by the customer.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Report, Safety Recommendation

1. Introduction and scope
2. Summary of recommendations
3. Responsible operations review list
4. Action due dates assignments
5. Summary of company answer

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD SA-006

VOYAGER DATA REQUIREMENT DESCRIPTION				DRD APPROVED BY:		DATE:		DATA CATEGORY:	
ORGANIZATION ORIGINATING REQUIREMENT:		CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY:	DATE:		CONTRACT NO.:	DRD NO.:
		SA			F. A. Boppel	7/28/67			SA-006
TITLE OF DOCUMENT:					ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION:		TASK OR SUBTASK:		DRD ITEM NO.:
REPORT, ACCIDENT/INCIDENT					Safety				
					ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:		DRL NO.:		LEVEL NO.:
					ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:		DDL NO.:		FILE NO.:
TYPE OF DOCUMENT: <input type="checkbox"/> CONTROL <input type="checkbox"/> ACTION <input type="checkbox"/> REFERENCE <input checked="" type="checkbox"/> INFORMATION					ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:		NO. OF COPIES:		
USE OF DOCUMENT:					ESTIMATED MANHOURS FOR SINGLE PREPARATION:		INFORMATION CUTOFF DATE OR MILESTONE:		
Used to identify to management all accidents and incidents related to safety.					ESTIMATED COST (\$) FOR SINGLE PREPARATION:		DATE DATA DUE TO USER:		
					FREQUENCY OF ISSUE:		PUBLICATION DATE:		
					ESTIMATED COST (\$) <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input type="checkbox"/> OTHERWISE, AS SPECIFIED		As required		
INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS:					UPDATE (FREQUENCY OR MILESTONE):		ESTIMATED EXPIRATION DATE:		
SA-001, Plan, System Safety Engineering SA-005, Report, Safety QA-020, Report, Failure Analysis					PDR				
CLASSIFICATION:					NO. OF COPIES:		50		
<input type="checkbox"/> SECRET <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/> SECRET RESTRICTED DATA <input type="checkbox"/> CONFIDENTIAL RESTRICTED DATA <input checked="" type="checkbox"/> UNCLASSIFIED					NO. OF COPIES:		50		
<input type="checkbox"/> GROUP 1 <input type="checkbox"/> GROUP 2 <input type="checkbox"/> GROUP 3 <input type="checkbox"/> GROUP 4 <input type="checkbox"/> PROPRIETARY <input type="checkbox"/> PUBLIC DOMAIN					NO. OF COPIES:		50		
<input type="checkbox"/> SPECIAL HANDLING <input type="checkbox"/> NASA DISCREET <input type="checkbox"/> JPL DISCREET <input type="checkbox"/> PROJECT DISCREET <input type="checkbox"/> NOFORN					NO. OF COPIES:		50		
FORM OF DATA:					REFERENCE DOCUMENTS:				
KIND OF DATA:					NASA Safety Specs. Military Safety Specs.				
<input checked="" type="checkbox"/> PRINTED DOCUMENT <input type="checkbox"/> CHART <input type="checkbox"/> DIAGRAM <input type="checkbox"/> DRAWING <input type="checkbox"/> FILM (STATIC OR MOTION) <input type="checkbox"/> ILLUSTRATION <input type="checkbox"/> MODEL <input type="checkbox"/> RECORDING (TAPE OR DISC) <input type="checkbox"/> COMPUTER CARD <input type="checkbox"/> COMPUTER TAPE <input type="checkbox"/> MICROFILM (W/OR W/O CARD) <input type="checkbox"/> OTHER					ABSTRACT BROCHURE BULLETIN CATALOG CONTRACT DIRECTIVE DISCLOSURE ENGINEERING CHANGE ORDER REQUEST FOR ENGINEERING CHANGE PROPOSAL ENGINEERING CHANGE PROPOSAL HANDBOOK INDEX		INSTRUCTION LETTER LIST LOG MANUAL MEMORANDUM MINUTES PLAN PROCEDURE REGULATION SCHEDULE SPECIFICATION STANDARD VOUCHER		
REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)					APPLICABLE STANDARDS:				
DRAFT					DATE		PREPUBLICATION PROOF		DATE
SUBMIT FOR REVIEW TO:					DATE		PREPUBLICATION PROOF		DATE
BY					DATE		PREPUBLICATION PROOF		DATE
SUBMIT FOR APPROVAL TO:					DATE		PREPUBLICATION PROOF		DATE
BY					DATE		PREPUBLICATION PROOF		DATE
Manager, Safety					DATE		PREPUBLICATION PROOF		DATE
BY					DATE		PREPUBLICATION PROOF		DATE

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.:

SA-006

Monthly issuance will be maintained even if no accidents or incidents have occurred.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Used to assure communications of accidents or incidents which degrade the system, or have a potential to do so, and to report on results of related investigations.

This report will be maintained throughout the life of the Voyager Project and will be issued to launch site personnel identifying the accidents and/or incidents noted at the launch site.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD SA-007

VOYAGER DATA REQUIREMENT DESCRIPTION				DRD APPROVED BY:		DATE:	DATA CATEGORY:
ORGANIZATION ORIGINATING REQUIREMENT:	CODE:	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY:	DATE:	CONTRACT NO.:	DRD NO.:
	SA			F. A. Boppel	7/28/67		SA-007
TITLE OF DOCUMENT: MINUTES, INTEGRATED SAFETY BOARD MEETINGS				ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Safety		TASK OR SUBTASK:	DRD ITEM NO.:
				ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:		DRL NO.:	LEVEL NO.:
				ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:		DDL NO.:	FILE NO.:
TYPE OF DOCUMENT: <input type="checkbox"/> CONTROL <input type="checkbox"/> ACTION <input type="checkbox"/> REFERENCE <input checked="" type="checkbox"/> INFORMATION				ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:		NO. OF COPIES: 20	
USE OF DOCUMENT: To document subject matter reviewed and actions planned; also establishes a communication system for informing Voyager management of action items, and responsible individuals.				ESTIMATED MANHOURS FOR SINGLE PREPARATION:		INFORMATION CUTOFF DATE OR MILESTONE:	
				ESTIMATED COST (\$) FOR SINGLE PREPARATION:		DATE DATA DUE TO USER:	
INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS: SA-001, Plan, System Safety Engineering RA-007, Minutes, Failure Analysis Review Board (FARB)				FREQUENCY OF ISSUE: <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input checked="" type="checkbox"/> OTHERWISE, AS SPECIFIED As required		PUBLICATION DATE: PDR	
						UPDATE (FREQUENCY OR MILESTONE): As required	
CLASSIFICATION: <input type="checkbox"/> SECRET <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/> SECRET RESTRICTED DATA <input type="checkbox"/> CONFIDENTIAL RESTRICTED DATA <input checked="" type="checkbox"/> UNCLASSIFIED				<input type="checkbox"/> GROUP 1 <input type="checkbox"/> GROUP 2 <input type="checkbox"/> GROUP 3 <input type="checkbox"/> GROUP 4 <input type="checkbox"/> PROPRIETARY <input type="checkbox"/> PUBLIC DOMAIN		<input type="checkbox"/> SPECIAL HANDLING <input type="checkbox"/> NASA DISCREET <input type="checkbox"/> JPL DISCREET <input type="checkbox"/> PROJECT DISCREET <input type="checkbox"/> NOFORN	
FORM OF DATA: <input checked="" type="checkbox"/> PRINTED DOCUMENT <input type="checkbox"/> CHART <input type="checkbox"/> DIAGRAM <input type="checkbox"/> DRAWING <input type="checkbox"/> FILM (STATIC OR MOTION) <input type="checkbox"/> ILLUSTRATION <input type="checkbox"/> MODEL <input type="checkbox"/> RECORDING (TAPE OR DISC) <input type="checkbox"/> COMPUTER CARD <input type="checkbox"/> COMPUTER TAPE <input type="checkbox"/> MICROFILM (W/OR W/O CARD) <input type="checkbox"/> OTHER _____ _____ _____				KIND OF DATA: <input type="checkbox"/> ABSTRACT <input type="checkbox"/> BROCHURE <input type="checkbox"/> BULLETIN <input type="checkbox"/> CATALOG <input type="checkbox"/> CONTRACT <input type="checkbox"/> DIRECTIVE <input type="checkbox"/> DISCLOSURE <input type="checkbox"/> ENGINEERING CHANGE ORDER <input type="checkbox"/> REQUEST FOR ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> HANDBOOK <input type="checkbox"/> INDEX			
				<input type="checkbox"/> INSTRUCTION <input type="checkbox"/> LETTER <input type="checkbox"/> LIST <input type="checkbox"/> LOG <input type="checkbox"/> MANUAL <input type="checkbox"/> MEMORANDUM <input checked="" type="checkbox"/> MINUTES <input type="checkbox"/> PLAN <input type="checkbox"/> PROCEDURE <input type="checkbox"/> REGULATION <input type="checkbox"/> REPORT <input type="checkbox"/> SCHEDULE <input type="checkbox"/> SPECIFICATION <input type="checkbox"/> STANDARD <input type="checkbox"/> VOUCHER			
REFERENCE DOCUMENTS: NASA Safety Specs. Military Safety Specs.				APPLICABLE STANDARDS:			
REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)							
DRAFT		DATE		PREPUBLICATION PROOF		DATE	
SUBMIT FOR REVIEW TO: _____		_____		_____		_____	
_____ BY _____		_____		_____ BY _____		_____	
_____		_____		_____		_____	
SUBMIT FOR APPROVAL TO: <u>Manager, Safety</u>		BY _____		_____ BY _____		_____	
_____		_____		_____		_____	

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.:

SA-007

SPECIAL INSTRUCTIONS:

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Minutes, Integrated Safety Board

1. Title of Board
2. Date of meeting
3. Names of personnel attending
4. Purpose of board meeting
5. Subject matter discussed
6. Findings and resolutions
7. Follow up or subsequent actions necessary
8. Distribution

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD SA-008

VOYAGER DATA REQUIREMENT DESCRIPTION				DRD APPROVED BY:		DATE:	DATA CATEGORY:
ORGANIZATION ORIGINATING REQUIREMENT:	CODE: SA	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY: F. A. Boppel	DATE: 7/28/67	CONTRACT NO.:	DRD NO.: SA-008
TITLE OF DOCUMENT: REPORT, SAFETY				ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Safety		TASK OR SUBTASK:	DRL ITEM NO.:
				ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:		DRL NO.:	LEVEL NO.:
				ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:		DDL NO.:	FILE NO.:
TYPE OF DOCUMENT: <input type="checkbox"/> CONTROL <input type="checkbox"/> ACTION <input type="checkbox"/> REFERENCE <input checked="" type="checkbox"/> INFORMATION				ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:		NO. OF COPIES: 25	
USE OF DOCUMENT: Report to management the degree of compliance with established safety requirements, during the design phases, test plan writings and range safety.				ESTIMATED MANHOURS FOR SINGLE PREPARATION:		INFORMATION CUTOFF DATE OR MILESTONE:	
				ESTIMATED COST (\$) FOR SINGLE PREPARATION:		DATE DATA DUE TO USER:	
INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS: TE-030, Procedure, Test Operating SA-001, Plan, System Safety Engineering RA-011, Procedure, Reliability Operating				FREQUENCY OF ISSUE: <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input type="checkbox"/> OTHERWISE, AS SPECIFIED		PUBLICATION DATE: PDR	
						UPDATE (FREQUENCY OR MILESTONE): Thru launch	
CLASSIFICATION: <input type="checkbox"/> SECRET <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/> SECRET RESTRICTED DATA <input type="checkbox"/> CONFIDENTIAL RESTRICTED DATA <input checked="" type="checkbox"/> UNCLASSIFIED				<input type="checkbox"/> GROUP 1 <input type="checkbox"/> GROUP 2 <input type="checkbox"/> GROUP 3 <input type="checkbox"/> GROUP 4 <input type="checkbox"/> PROPRIETARY <input type="checkbox"/> PUBLIC DOMAIN		<input type="checkbox"/> SPECIAL HANDLING <input type="checkbox"/> NASA DISCREET <input type="checkbox"/> JPL DISCREET <input type="checkbox"/> PROJECT DISCREET <input type="checkbox"/> NOFORN	
FORM OF DATA: KIND OF DATA: <input checked="" type="checkbox"/> PRINTED DOCUMENT <input type="checkbox"/> ABSTRACT <input type="checkbox"/> INSTRUCTION <input type="checkbox"/> CHART <input type="checkbox"/> BROCHURE <input type="checkbox"/> LETTER <input type="checkbox"/> DIAGRAM <input type="checkbox"/> BULLETIN <input type="checkbox"/> LIST <input type="checkbox"/> DRAWING <input type="checkbox"/> CATALOG <input type="checkbox"/> LOG <input type="checkbox"/> FILM (STATIC OR MOTION) <input type="checkbox"/> CONTRACT <input type="checkbox"/> MANUAL <input type="checkbox"/> ILLUSTRATION <input type="checkbox"/> DIRECTIVE <input type="checkbox"/> MEMORANDUM <input type="checkbox"/> MODEL <input type="checkbox"/> DISCLOSURE <input type="checkbox"/> MINUTES <input type="checkbox"/> RECORDING (TAPE OR DISC) <input type="checkbox"/> ENGINEERING CHANGE ORDER <input type="checkbox"/> PLAN <input type="checkbox"/> COMPUTER CARD <input type="checkbox"/> REQUEST FOR ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> PROCEDURE <input type="checkbox"/> COMPUTER TAPE <input type="checkbox"/> ENGINEERING CHANGE PROPOSAL <input checked="" type="checkbox"/> REGULATION <input type="checkbox"/> MICROFILM (W/OR W/O CARD) <input type="checkbox"/> ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> SCHEDULE <input type="checkbox"/> OTHER <input type="checkbox"/> HANDBOOK <input type="checkbox"/> SPECIFICATION <input type="checkbox"/> INDEX <input type="checkbox"/> STANDARD <input type="checkbox"/> VOUCHER				REFERENCE DOCUMENTS: NASA Safety Specs. Military Safety Specs.			
REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)							
DRAFT		DATE		PREPUBLICATION PROOF		DATE	
SUBMIT FOR REVIEW TO: _____		_____		_____		_____	
_____ BY _____		_____		_____ BY _____		_____	
_____		_____		_____		_____	
SUBMIT FOR APPROVAL TO: <u>Manager, Safety</u>		BY _____		_____ BY _____		_____	
_____		_____		_____		_____	

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.:

SA-008

This report will be broken down into sections, design phase, test plans, range safety, and periodic audits. This report should be considered by Voyager management as required reading item.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Report, Safety

1. Introduction and scope
2. Summary matrix, approved hardware
3. Summary matrix, test plans reviewed
4. Summary OSE reviewed for safety
5. Audit reports
6. Follow-up action identification
7. Range safety
 - a. Voyager required by prime contractor
 - b. Launch center requirements

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD SA-009

VOYAGER DATA REQUIREMENT DESCRIPTION				DRD APPROVED BY:		DATE:	DATA CATEGORY:				
ORGANIZATION ORIGINATING REQUIREMENT:	CODE: SA	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY: F. A. Boppel	DATE: 7/28/67	CONTRACT NO.:	DRD NO.: SA-009				
TITLE OF DOCUMENT: DIRECTIVE, SAFETY				ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Safety		TASK OR SUBTASK:	DRL ITEM NO.:				
				ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:		DRL NO.:	LEVEL NO.:				
				ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:		DDL NO.:	FILE NO.:				
				TYPE OF DOCUMENT: <input type="checkbox"/> CONTROL <input checked="" type="checkbox"/> ACTION <input type="checkbox"/> REFERENCE <input type="checkbox"/> INFORMATION							
USE OF DOCUMENT: Communicates urgent safety requirements to all organizations.				ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:		NO. OF COPIES: 100					
				ESTIMATED MANHOURS FOR SINGLE PREPARATION:		INFORMATION CUTOFF DATE OR MILESTONE:					
				ESTIMATED COST (\$) FOR SINGLE PREPARATION:		DATE DATA DUE TO USER:					
INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS: SA-001, Plan, System Safety Engineering				FREQUENCY OF ISSUE: <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input checked="" type="checkbox"/> OTHERWISE, AS SPECIFIED As required		PUBLICATION DATE: PDR					
						UPDATE (FREQUENCY OR MILESTONE): As required					
						ESTIMATED EXPIRATION DATE:					
CLASSIFICATION: <input type="checkbox"/> SECRET <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/> SECRET RESTRICTED DATA <input type="checkbox"/> CONFIDENTIAL RESTRICTED DATA <input checked="" type="checkbox"/> UNCLASSIFIED				<input type="checkbox"/> GROUP 1 <input type="checkbox"/> GROUP 2 <input type="checkbox"/> GROUP 3 <input type="checkbox"/> GROUP 4 <input type="checkbox"/> PROPRIETARY <input type="checkbox"/> PUBLIC DOMAIN							
<input type="checkbox"/> SPECIAL HANDLING <input type="checkbox"/> NASA DISCREET <input type="checkbox"/> JPL DISCREET <input type="checkbox"/> PROJECT DISCREET <input type="checkbox"/> NOFORN											
FORM OF DATA: <input checked="" type="checkbox"/> PRINTED DOCUMENT <input type="checkbox"/> CHART <input type="checkbox"/> DIAGRAM <input type="checkbox"/> DRAWING <input type="checkbox"/> FILM (STATIC OR MOTION) <input type="checkbox"/> ILLUSTRATION <input type="checkbox"/> MODEL <input type="checkbox"/> RECORDING (TAPE OR DISC) <input type="checkbox"/> COMPUTER CARD <input type="checkbox"/> COMPUTER TAPE <input type="checkbox"/> MICROFILM (W/OR W/O CARD) <input type="checkbox"/> OTHER				KIND OF DATA: <input type="checkbox"/> ABSTRACT <input type="checkbox"/> BROCHURE <input type="checkbox"/> BULLETIN <input type="checkbox"/> CATALOG <input type="checkbox"/> CONTRACT <input checked="" type="checkbox"/> DIRECTIVE <input type="checkbox"/> DISCLOSURE <input type="checkbox"/> ENGINEERING CHANGE ORDER <input type="checkbox"/> REQUEST FOR ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> HANDBOOK <input type="checkbox"/> INDEX				REFERENCE DOCUMENTS: NASA Safety Specs. Military Safety Specs.			
REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)											
DRAFT		DATE		PREPUBLICATION PROOF		DATE					
SUBMIT FOR REVIEW TO:		BY		BY							
SUBMIT FOR APPROVAL TO:		BY		BY							
Project Manager											

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

DRD NO.:

SA-009

SPECIAL INSTRUCTIONS:

Safety directives are the responsibility of management, and as such are mandatory reading.

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

The Safety directive will be a document requiring mandatory compliance by all operations concerned. It will be issued by the Safety Operation, Voyager. This directive has the authority to stop work.

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD SA-010

VOYAGER DATA REQUIREMENT DESCRIPTION				DRD APPROVED BY:		DATE:	DATA CATEGORY:				
ORGANIZATION ORIGINATING REQUIREMENT:	CODE: SA	OFFICE RESPONSIBLE FOR DRD:	CODE:	DRD PREPARED BY: F. A. Boppel	DATE: 7/28/67	CONTRACT NO.:	DRD NO.: SA-010				
TITLE OF DOCUMENT: REPORT, PERSONNEL CERTIFICATION PROGRAM				ORGANIZATION RESPONSIBLE FOR DOCUMENT PREPARATION: Safety		TASK OR SUBTASK:	DRD ITEM NO.:				
				ORGANIZATION RESPONSIBLE FOR DOCUMENT REPRODUCTION:		DRL NO.:	LEVEL NO.:				
				ORGANIZATION RESPONSIBLE FOR DOCUMENT DISTRIBUTION:		DDL NO.:	FILE NO.:				
				TYPE OF DOCUMENT: <input type="checkbox"/> CONTROL <input type="checkbox"/> ACTION <input type="checkbox"/> REFERENCE <input checked="" type="checkbox"/> INFORMATION							
USE OF DOCUMENT: Report is used to inform management of certification program status				ORGANIZATION RESPONSIBLE FOR DOCUMENT STOWAGE:		NO. OF COPIES: 25					
				ESTIMATED MANHOURS FOR SINGLE PREPARATION:		INFORMATION CUTOFF DATE OR MILESTONE:					
				ESTIMATED COST (\$) FOR SINGLE PREPARATION:		DATE DATA DUE TO USER:					
INTERRELATIONSHIP WITH OTHER DATA REQUIREMENTS: SA-001, Plan, System Safety Engineering SA-003, Report, Safety Training Program				FREQUENCY OF ISSUE: <input type="checkbox"/> ANNUALLY <input type="checkbox"/> SEMI-ANNUALLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> BI-MONTHLY <input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> SEMI-MONTHLY <input type="checkbox"/> BI-WEEKLY <input type="checkbox"/> WEEKLY <input type="checkbox"/> DAILY <input type="checkbox"/> OTHERWISE, AS SPECIFIED		PUBLICATION DATE: PDR					
						UPDATE (FREQUENCY OR MILESTONE): Thru launch					
						ESTIMATED EXPIRATION DATE:					
CLASSIFICATION: <input type="checkbox"/> SECRET <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/> SECRET RESTRICTED DATA <input type="checkbox"/> CONFIDENTIAL RESTRICTED DATA <input checked="" type="checkbox"/> UNCLASSIFIED				<input type="checkbox"/> GROUP 1 <input type="checkbox"/> GROUP 2 <input type="checkbox"/> GROUP 3 <input type="checkbox"/> GROUP 4 <input type="checkbox"/> PROPRIETARY <input type="checkbox"/> PUBLIC DOMAIN		<input type="checkbox"/> SPECIAL HANDLING <input type="checkbox"/> NASA DISCREET <input type="checkbox"/> JPL DISCREET <input type="checkbox"/> PROJECT DISCREET <input type="checkbox"/> NOFORN					
FORM OF DATA: <input checked="" type="checkbox"/> PRINTED DOCUMENT <input type="checkbox"/> CHART <input type="checkbox"/> DIAGRAM <input type="checkbox"/> DRAWING <input type="checkbox"/> FILM (STATIC OR MOTION) <input type="checkbox"/> ILLUSTRATION <input type="checkbox"/> MODEL <input type="checkbox"/> RECORDING (TAPE OR DISC) <input type="checkbox"/> COMPUTER CARD <input type="checkbox"/> COMPUTER TAPE <input type="checkbox"/> MICROFILM (W/OR W/O CARD) <input type="checkbox"/> OTHER _____				KIND OF DATA: <input type="checkbox"/> ABSTRACT <input type="checkbox"/> INSTRUCTION <input type="checkbox"/> BROCHURE <input type="checkbox"/> LETTER <input type="checkbox"/> BULLETIN <input type="checkbox"/> LIST <input type="checkbox"/> CATALOG <input type="checkbox"/> LOG <input type="checkbox"/> CONTRACT <input type="checkbox"/> MANUAL <input type="checkbox"/> DIRECTIVE <input type="checkbox"/> MEMORANDUM <input type="checkbox"/> DISCLOSURE <input type="checkbox"/> MINUTES <input type="checkbox"/> ENGINEERING CHANGE ORDER <input type="checkbox"/> PLAN <input type="checkbox"/> REQUEST FOR ENGINEERING CHANGE PROPOSAL <input type="checkbox"/> PROCEDURE <input type="checkbox"/> ENGINEERING CHANGE PROPOSAL <input checked="" type="checkbox"/> REGULATION <input type="checkbox"/> HANDBOOK <input type="checkbox"/> SCHEDULE <input type="checkbox"/> INDEX <input type="checkbox"/> SPECIFICATION _____ <input type="checkbox"/> STANDARD _____ <input type="checkbox"/> VOUCHER				REFERENCE DOCUMENTS: NASA Safety Specs Military Safety Specs			
								APPLICABLE STANDARDS:			
REVIEWS AND/OR APPROVALS REQUIRED: (LIST IN ORDER OF SUBMITTAL)											
DRAFT		DATE		PREPUBLICATION PROOF		DATE					
SUBMIT FOR REVIEW TO: _____		_____		_____		_____					
_____ BY _____		_____		_____ BY _____		_____					
_____		_____		_____		_____					
SUBMIT FOR APPROVAL TO: Manager, Safety		BY _____		_____ BY _____		_____					
_____		_____		_____		_____					

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.:

SA-010

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Report, Personnel Certification Program

1. Introduction and scope
2. Requirements and objectives
 - a. Personnel
 - b. Flight hardware
 - c. Test equipment
 - d. Handling equipment
 - e. Facilities equipment
3. Plans and schedules
4. Personnel certified listing

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

GE EXHIBIT DRD SA-011

[illegible]

VOYAGER DATA REQUIREMENT DESCRIPTION - 2ND SHEET

SPECIAL INSTRUCTIONS:

DRD NO.:
SA-011

SPECIAL DISTRIBUTION: (IF DISTRIBUTION IS NOT COVERED BY AN EXISTING DDL WRITE IN DISTRIBUTION BELOW)

OUTLINE OF CONTENTS:

Report, Ordnance Accountability

1. Introduction and scope
2. Summary of accountable items
3. Applicable documents
4. Quantitative listing
5. Authorization for withdrawal list

(CONTINUE ON THIRD SHEET, IF NECESSARY, AND AFFIX TO THIS DRD.)

DOCUMENTATION RELATIONSHIP TREES

A documentation relationship tree has been prepared to further develop the data base interrelationships by identifying and presenting pictorially the relationships of all Voyager contractor data items within each functional category and by showing their relationships across categories.

Relationships within the functional category are shown by constructing a tier pattern beginning with the top level (or governing) data item and relating, in descending order, all data items within the category to this top level data item. (The location of a data item at a given level on the diagram does not necessarily indicate the importance of that specific item but identifies and defines its relation to all other data items in that category.)

Relationships between data items in one category and data items in other functional categories are shown by: (1) arrows to indicate the direction of the relationship, and (2) an alphabetic code to indicate the nature of the interrelationship as follows:

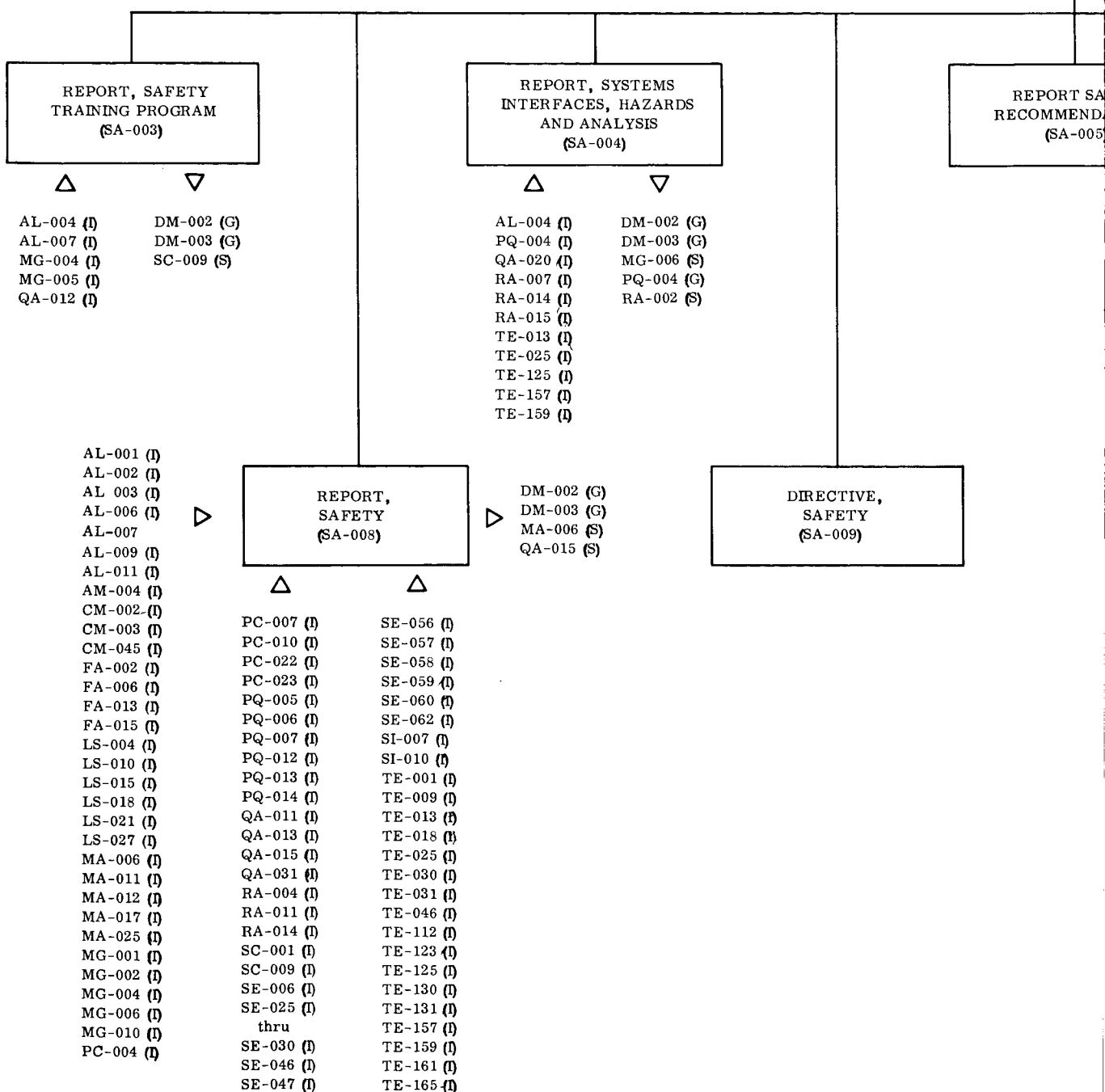
- a. Data items needed for preparation and/or support of the referenced item. (I)
- b. Data items supported or needed by this data item. (S)
- c. Data items that relate "to" and provide information of a general nature but are not required in an input or support role. (G)

Each data item appearing on the Data Item List (DIL) was examined and evaluated with respect to its contribution to, or dependence on, data items appearing in other categories, and is included in the diagrams.

AM-001 (I) ▽
 AM-007 (I)
 DM-001 (I)
 DM-002 (I)
 DM-003 (I)
 DM-114 (I)
 MA-002 (I)
 MA-003 (I)
 MA-004 (I)
 MA-009 (I)
 MF-006 (I)
 MG-003 (I)
 MG-008 (I)
 MG-009 (I)
 PC-004 (I)
 PC-011 (I)

PLAN, SYSTEM
 SAFETY ENGINEER
 (SA-001)

△
 PC-012 (I)
 PC-017 (I)
 PQ-004 (I)
 QA-004 (I)
 RA-001 (I)
 RP-004 (I)
 SC-002 (I)
 SC-007 (I)
 SI-001 (I)
 SI-002 (I)
 SI-006 (I)
 SI-007 (I)



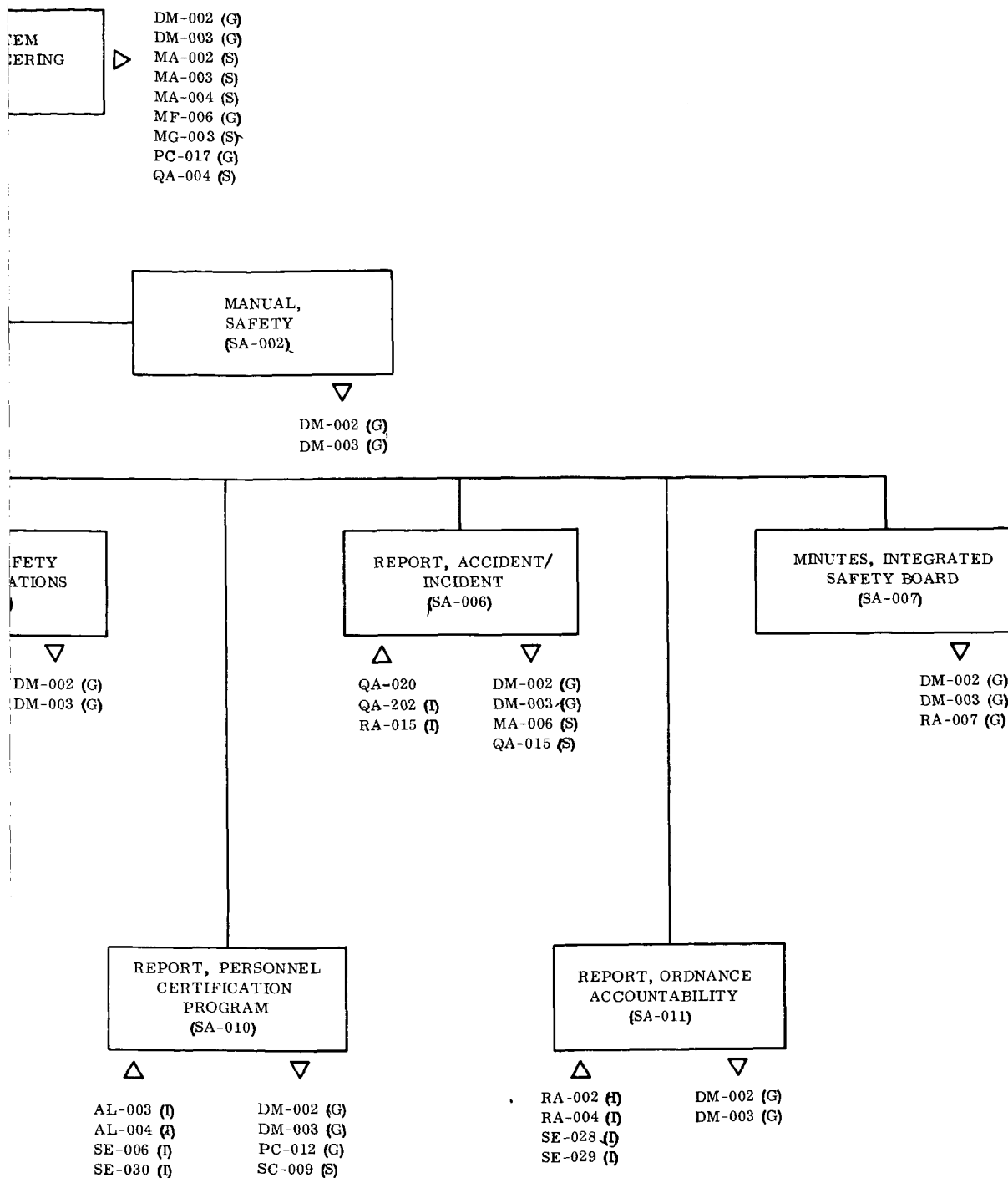


Figure M-4. Safety Documentation Relationship Tree (SA)

DATA ITEM PHASING, FREQUENCY

The Data Item Frequency and Phasing chart shows the requirements for contractor data item preparation by major project review periods. It is concerned with the phasing and frequency of preparation of each individual data item and not the total number of copies required for reproduction and distribution.

The following legend and/or abbreviations have been used:

A	Annual
S/A	Semi Annual
WK	Weekly
MO	Monthly
B/W	Biweekly
B/M	Bimonthly
O/T	One time
A/R	As required
U	Update
I/U	One update
DA	Daily
Q	Quarterly
I	Initial
F	Final
N/R	New and revised
SDR	System design review
PDR	Preliminary design review
HDR	Hard design review
CDR	Critical design review
FACI	First article configuration inspection
MAR	Mission acceptance review
J FACT	Joint flight acceptance composite testing

SAFETY

QUAN

SA-009 Directive, Safety

SA-002 Manual, Safety

SA-007 Minutes, Integrated Safety Board Meetings

SA-001 Plan. System Safety Engineering

SA-003 Report, Safety Training Program

SA-004 Report, Systems Interfaces, Hazards, and Analysis

SA-005 Report, Safety Recommendations

SA-006 Report, Accident/Incident

SA-008 Report, Safety

SA-010 Report, Personnel Certification Program

SA-011 Report, Ordnance Accountability

TOTAL



SDR

3.5 MO.



3.5 MO.



PDR

9 MO.



HDR

12 MO.



CD

[illegible]

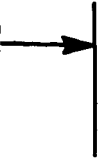
[illegible]

Figure M-5. Safety Data Item
Phasing and Frequency Matrix